

## ELECTROACTIVE POLYMER SENSORS

### ABSTRACT OF THE DISCLOSURE

5       The invention provides sensors that comprise a transducer that converts between mechanical energy and electrical energy. The transducer comprises an electroactive polymer in electrical communication with at least two electrodes. When a relatively small voltage difference is applied between the electrodes, deflection of the polymer results in a measurable change in electrical energy for the transducer. The change in electrical energy  
10      may correspond to a change in resistance, capacitance, or a combination thereof. Sensing electronics circuits in electrical communication with electrodes detect the electrical energy change.